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EXAMINER

DUONG, CHRISTINE T

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2609

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/612,401

Applicant(s)

WANG ET AL.

Examiner

Christine Duong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>07/01/2003 and 12/29/2004</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Information Disclosure Statement

The references listed in the Information Disclosure Statement, filed on 01 July 2003 and 29 December 2004, have been considered by the examiner (see attached PTO-1449 form or PTO/SB/08A and 08B forms).

Specification

1. The disclosure is objected to because of the following informalities: On Page 21, Line 6, the "network interface 350" is believed to actually be "network interface 155" in the sentence "It controls processing of error resilience adaptation requests received from the client 101 and the sending of appropriate video and/or audio streams, stored in the second memory (disk) 152, to the client 101 via the network interface 350".

Appropriate correction is required.

Claim Objections

2. **Claims 4-5, 7, 11 and 14** are objected to because of the following informalities: Regarding **Claim 4**, it is suggested to rewrite "the client side" in Line 2 as --a client side--.

Regarding **Claim 5**, it is suggested to rewrite "the error resilience level" in Line 5 as --an error resilience level--.

Regarding **Claim 7**, it is suggested to rewrite "the client reports" in Line 1 as --client reports-- and "the server" in Line 3 as --the streaming server--.

Regarding **Claim 11**, it is suggested to rewrite "the first one" in Line 5 as --the first error resilience level--.

Regarding **Claim 14**, it is suggested to rewrite "the client" in Line 2 as --the streaming client--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claims 7, 12 and 17** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7 recites the limitation "said reports" in Line 4. There is insufficient antecedent basis for this limitation in the claim. It is unclear whether this is intended to be the same as or different from the "the client reports" recited in Line 1. In addition, regarding **Claim 7**, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim 12 recites the limitation "a media stream" in Line 3. There is insufficient antecedent basis for this limitation in the claim. It is unclear whether this is intended to be the same as or different from the "a media stream" recited in Line 2.

Claim 17 recites the limitation "said media" in Line 1. There is insufficient antecedent basis for this limitation in the claim. It is unclear whether this is intended to be the same as or different from the "the streaming media" recited in Claim 1, Line 4.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. **Claims 22 and 23** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Regarding **Claims 22 and 23**, the claimed computer program product executable is non-statutory subject matter since it is not a process, machine, manufacture nor composition of matter; nor it is recorded on computer-readable medium, see MPEP 2106(IV)(B)(1).

Claims 22 and 23 lack the proper preamble language for statutory computer program product. See MPEP 2100 for guidance on computer related inventions.

The examiner suggest a preamble as follows:

“A computer readable medium containing computer executable instructions to perform a method, the method comprising:”

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. **Claims 1-23** are rejected under 35 U.S.C. 102(e) as being anticipated by Bhatt et al. (PG Pub US 2003/0005386 A1).

Regarding **Claim 1**, Bhatt et al. discloses a method for streaming media (streamed media, [0041]) from a streaming server (server 202 or server 206, Fig. 2; or sending device 302, Fig. 3) to a streaming client (wireless receiving device 210, Fig. 2; or receiving device 304, Fig. 3) via a transmission channel (wireless communication link, [0044]), wherein the method comprises:

reducing effects caused by transmission channel error variation (“The wireless communication link, in this example, may be obstructed or otherwise interfered with by objects or other signals. For example, as illustrated in FIG. 2, an obstacle such as truck 212 may cause signal interference as it passes between antenna 208 and receiving device 210. Such signal interference can lead to errors in the received data, which can degrade the streamed media presentation if not corrected”, [0044]) by applying error resilience adaptation to the streaming media (“The improved error correction scheme essentially allows the sending device and receiving device to negotiate the level of error correction that is provided for the streamed media”, [0045]).

Regarding **Claim 2**, Bhatt et al. discloses everything claimed as applied above (see *Claim 1*). In addition, said error resilience adaptation comprises the use of a set of pre-defined error resilience levels to control streaming media transmission (“The improved error correction scheme essentially allows the sending device and receiving device to negotiate the level of error correction that is provided for the

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streamed media”, [0045] and as a given example: “Thus, for example, in certain systems the FEC encoding level may be “high” when there is a ratio of one FEC packet for every data packet. In other systems, the FEC encoding level may be “lower” such that there is a ratio of one FEC packet for every four data packets”, [0006]].

Regarding **Claim 3**, Bhatt et al. discloses everything claimed as applied above (see *Claim 2*). In addition, said error resilience levels are defined in accordance with targeted highest data loss rate or packet loss rate (**“the requested error correction level 216 can indicate the density of error correction packets that are to be generated for a plurality of streaming media data packets”, [0047]].**

Regarding **Claim 4**, Bhatt et al. discloses everything claimed as applied above (see *Claim 1*). In addition, transmission channel error variation is noticed as a change in data loss rate or packet loss rate experienced at the client side (**“The wireless communication link, in this example, may be obstructed or otherwise interfered with by objects or other signals. For example, as illustrated in FIG. 2, an obstacle such as truck 212 may cause signal interference as it passes between antenna 208 and receiving device 210. Such signal interference can lead to errors in the received data, which can degrade the streamed media presentation if not corrected”, [0044]].**

Regarding **Claim 5**, Bhatt et al. discloses everything claimed as applied above (see *Claim 1*). In addition,

sending, upon noticing a change in transmission channel condition, from the streaming client to the streaming server a request for error resilience adaptation (**“receiving device 210 may send a request message 214 identifying a requested error correction level 216”, [0046] or “a request message 214 (FIG. 2) identifying a requested error correction level 216 (e.g., within an RTSP setup message) is sent to sending device 302”, [0055];**

receiving the request at the streaming server (**“a request for streamed media is received. The request identifies an initial error correction level to be applied to a specified streamed media. For example, a request message 214 identifying a requested error correction level 216 (e.g., within an RTSP setup message) can be sent by receiving device 304 to sending device 302”, [0059];**

adapting, by the streaming server, the error resilience level of the streaming media in accordance with the request (**“sending device 302 generates the appropriate number of error correction data packet(s) for a defined span of one or more streamed media data packets”, [0061]).**

Regarding **Claim 6**, Bhatt et al. discloses everything claimed as applied above (see *Claim 5*). In addition, said request is one of the following: a request for a specific error resilience level, an error resilience level increase request, an error resilience level decrease request (**“A higher error correction level may be requested when truck 212 is causing interference. However, once truck 212 has moved on, then receiving device 210 may request a lower error correction level”, [0046]).**

Regarding **Claim 7**, Bhatt et al. discloses everything claimed as applied above (see *Claim 1*). In addition, the streaming server receives from the client reports, such as RTCP reports (RTP Control Protocol (Real-Time Streaming Protocol)), indicative of transmission channel errors, and wherein the server decides on error resilience adaptation based on one or more of said reports (**“request message 214 is a real time streaming protocol (RTSP) setup message. Here, for example, the requested error correction level 216 can indicate the density of error correction packets that are to be generated for a plurality of streaming media data packets”, [0047] and “a request message 214 identifying a requested error correction level 216 (e.g., within an RTSP setup message) can be sent by receiving device 304 to sending device 302”, [0059]]**);

Regarding **Claim 8**, Bhatt et al. discloses everything claimed as applied above (see *Claim 1*). In addition, error resilience adaptation is performed during an ongoing streaming session established between the streaming client and the streaming server (**“The negotiation can be conducted at the beginning of the streaming media process and anytime thereafter”, [0045] and “logic 316 monitors the streamed media process and if desirable negotiates a different error correction level. For example, a new request message 214 identifying a different requested error correction level 216 (e.g., within an RTSP setup message) can be sent to sending device 302”, [0058]]**).

Regarding **Claim 9**, Bhatt et al. discloses everything claimed as applied above (see *Claim 1*). In addition, a media stream at the streaming server is associated with an

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error resilience value indicating an error resilience level (**“The FEC URL description includes the FEC Span--the number of data packets to which a particular FEC data packet or set of FEC data packets will apply--and the number of FEC data packets that apply to this span”, [0117]**).

Regarding **Claim 10**, Bhatt et al. discloses everything claimed as applied above (see *Claim 9*). In addition, said error resilience value is stored in a file format in which said media stream is stored (**“The FEC URL description includes the FEC Span--the number of data packets to which a particular FEC data packet or set of FEC data packets will apply--and the number of FEC data packets that apply to this span”, [0117]**).

Regarding **Claim 11**, Bhatt et al. discloses everything claimed as applied above (see *Claim 1*). In addition, error resilience adaptation is performed by switching the streaming server from sending a first beforehand generated stream having a first error resilience level to sending a second beforehand generated stream having a second error resilience level, the second error resilience level differing from the first one (**“selectively generating the at least one error correction data packet associated with the span of data packets to be streamed based on content within the data packets to be streamed, such that a first error correction level is applied to a first type of content and a different second error correction level is applied to a second type of content”, Claim 60**).

Regarding **Claim 12**, Bhatt et al. discloses everything claimed as applied above (see *Claim 1*). In addition, error resilience adaptation is performed by a transcoding

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method which comprises transcoding a media stream having a first level of error resilience to form a media stream having a level of error resilience differing from said first level (**“logic 316 monitors the streamed media process and if desirable negotiates a different error correction level. For example, a new request message 214 identifying a different requested error correction level 216 (e.g., within an RTSP setup message) can be sent to sending device 302”, [0058].**

Regarding **Claim 13**, Bhatt et al. discloses everything claimed as applied above (see *Claim 1*). In addition, error resilience information is transferred between the streaming server and the streaming client (**“to correct the errors in the received data, server 206 and receiving device 210 are configured to support an improved error correction scheme”, [0045].**

Regarding **Claim 14**, Bhatt et al. discloses everything claimed as applied above (see *Claim 13*). In addition, in a streaming session setup, information on available different error resilience level alternatives is communicated to the client (**“The negotiation can be conducted at the beginning of the streaming media process and anytime thereafter”, [0045] and “Prior to streaming media, logic 308 provides receiving device 304 with information about the streaming media available. For example, in certain implementations an enhancement is provided to the standard session description protocol (SDP) elements that allows receiving device 304 to identify the location and characteristics of the streamed media and associated FEC data streams”, [0049].**

Regarding **Claim 15**, Bhatt et al. discloses everything claimed as applied above (see *Claim 1*). In addition, the transmission channel is at least partially implemented via a mobile communications network **(the following elements either alone or in combination of “a hand-held communications device” and “a wireless communications base station”, [0020]; or the following elements either alone or in combination of “antenna 208” and “wireless receiving device 210”, Fig. 2; and as a given example in the background: “third generation (3G) wireless network”, [0005])**.

Regarding **Claim 16**, Bhatt et al. discloses everything claimed as applied above (see *Claim 15*). In addition, the streaming server has an IP connection (Internet Protocol) to an IP-based network which is configured to be coupled with the mobile communications network **(“Network 204 is representative of one or more communication links/networks. In certain exemplary implementations network 204 includes the Internet, an intranet, or other like network”, [0041] and Fig. 2)**

Regarding **Claim 17**, Bhatt et al. discloses everything claimed as applied above (see *Claim 1*). In addition, said media to be streamed comprise at least one of the following: a video content, an audio content, a still image, graphics, text and speech **(“receiving device 304 is able to select, for example, audio and/or video streams”, [0119])**.

Regarding **Claim 18**, Bhatt et al. discloses a client device **(wireless receiving device 210, Fig. 2; or receiving device 304, Fig. 3)** comprising:

receiving means for receiving streaming media sent from a streaming server to the client device via a transmission channel (**“receiving device 304 discovers and selects a streaming media available on sending device 302”, [0055] or “Receiving device 210 is representative of any device capable of receiving streamed media over a wireless communication link”, [0044];**

detection means for detecting transmission channel errors (**“The wireless communication link, in this example, may be obstructed or otherwise interfered with by objects or other signals. For example, as illustrated in FIG. 2, an obstacle such as truck 212 may cause signal interference as it passes between antenna 208 and receiving device 210. Such signal interference can lead to errors in the received data, which can degrade the streamed media presentation if not corrected”, [0044];** and

sending means for sending an error resilience adaptation request to the streaming server (**“receiving device 210 may send a request message 214 identifying a requested error correction level 216”, [0046] or “a request message 214 (FIG. 2) identifying a requested error correction level 216 (e.g., within an RTSP setup message) is sent to sending device 302”, [0055].**

Regarding **Claim 19**, Bhatt et al. discloses everything claimed as applied above (see *Claim 18*). In addition, the client device is a mobile station of a cellular network (**the following elements either alone or in combination of “a hand-held communications device” and “a wireless communications base station”, [0020]; or the following elements either alone or in combination of antenna 208 and**

wireless receiving device 210, Fig. 2; and as a given example in the background: “third generation (3G) wireless network”, [0005]).

Regarding **Claim 20**, Bhatt et al. discloses a streaming server (**server 202 or server 206, Fig. 2; or sending device 302, Fig. 3**) comprising:

sending means for sending streaming media to a streaming client via a transmission channel (**“sending device 502 identifies the availability of streamed media to an inquiring receiving device”, [0059] or “Server 202, in this example, is configured as a sending device that provides streamed media over network 204”, [0041] or “Server 206, in this example, is configured as a sending device that can provide streaming media through an antenna 208 to a wireless receiving device 210”, [0042]); and**

adaptation means for reducing effects caused by transmission channel error variation by applying error resilience adaptation to the streaming media (**“sending device 302 generates the appropriate number of error correction data packet(s) for a defined span of one or more streamed media data packets”, [0061]).**

Regarding **Claim 21**, Bhatt et al. discloses a system comprising a streaming server (**server 202 or server 206, Fig. 2; or sending device 302, Fig. 3**), a transmission channel (**“wireless communication link”, [0044]**) and a streaming client (**wireless receiving device 210, Fig. 2; or receiving device 304, Fig. 3**), wherein the system comprises:

transmission means for transmitting streaming media from the streaming server to the streaming client via the transmission channel (**“sending device 502 identifies**

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the availability of streamed media to an inquiring receiving device”, [0059] or “Server 202, in this example, is configured as a sending device that provides streamed media over network 204”, [0041] or “Server 206, in this example, is configured as a sending device that can provide streaming media through an antenna 208 to a wireless receiving device 210”, [0042]); and

adaptation means for reducing effects caused by transmission channel error variation by applying error resilience adaptation to the streaming media (“sending device 302 generates the appropriate number of error correction data packet(s) for a defined span of one or more streamed media data packets”, [0061]).

Regarding **Claim 22**, Bhatt et al. discloses a computer program product executable (**“portions of the invention are described in the general context of computer-executable instructions, such as program modules, being executed by a computer or like device”**) in a client device (**wireless receiving device 210, Fig. 2; or receiving device 304, Fig. 3**), the computer program product comprising:

program code for controlling reception of streaming media sent from a streaming server to the client device via a transmission channel (“receiving device 304 discovers and selects a streaming media available on sending device 302”, [0055] or “Receiving device 210 is representative of any device capable of receiving streamed media over a wireless communication link”, [0044]);;

program code for detecting transmission channel errors (“The wireless communication link, in this example, may be obstructed or otherwise interfered with by objects or other signals. For example, as illustrated in FIG. 2, an obstacle

such as truck 212 may cause signal interference as it passes between antenna 208 and receiving device 210. Such signal interference can lead to errors in the received data, which can degrade the streamed media presentation if not corrected”, [0044]); and

program code for controlling sending of an error resilience adaptation request to the streaming server (“receiving device 210 may send a request message 214 identifying a requested error correction level 216”, [0046] or “a request message 214 (FIG. 2) identifying a requested error correction level 216 (e.g., within an RTSP setup message) is sent to sending device 302”, [0055]).

Regarding **Claim 23**, Bhatt et al. discloses a computer program product executable (“portions of the invention are described in the general context of computer-executable instructions, such as program modules, being executed by a computer or like device”) in a streaming server (server 202 or server 206, Fig. 2; or sending device 302, Fig. 3), the computer program product comprising:

program code for controlling sending of streaming media to a streaming client via a transmission channel (“sending device 502 identifies the availability of streamed media to an inquiring receiving device”, [0059] or “Server 202, in this example, is configured as a sending device that provides streamed media over network 204”, [0041] or “Server 206, in this example, is configured as a sending device that can provide streaming media through an antenna 208 to a wireless receiving device 210”, [0042]); and

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program code for controlling error resilience adaptation applied to the streaming media ("**sending device 302 generates the appropriate number of error correction data packet(s) for a defined span of one or more streamed media data packets**", [0061]).

Citation of Pertinent Prior Art

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ramaswamy et al. (PG Pub US 2004/0047424 A1) discloses a system and apparatus for assigning a sequential control packet (in a sequential series) to a group of MPEG-2 compliant program packets for error recovery of a media object.

Apostolopoulos et al. (PG Pub US 2003/0009589 A1) discloses a method for assigning servers to provide multiple description bitstreams to a mobile client (in a mobile client environment) or to a fixed client (in a fixed client environment).

Bushmitch et al. (PG Pub US 2003/0182610 A1) discloses error resilient methods and apparatus for coding, transmitting, and/or storing digital multimedia data.

Conclusion

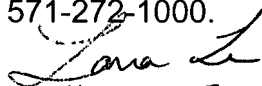
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine Duong whose telephone number is (571) 270-1664. The examiner can normally be reached on Monday - Friday: 730 AM - 5 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eliseo Ramos-Feliciano can be reached on (571) 272-7925. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


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LANA LE
PRIMARY EXAMINER

CTD 04/18/2007